

FIGURE 1

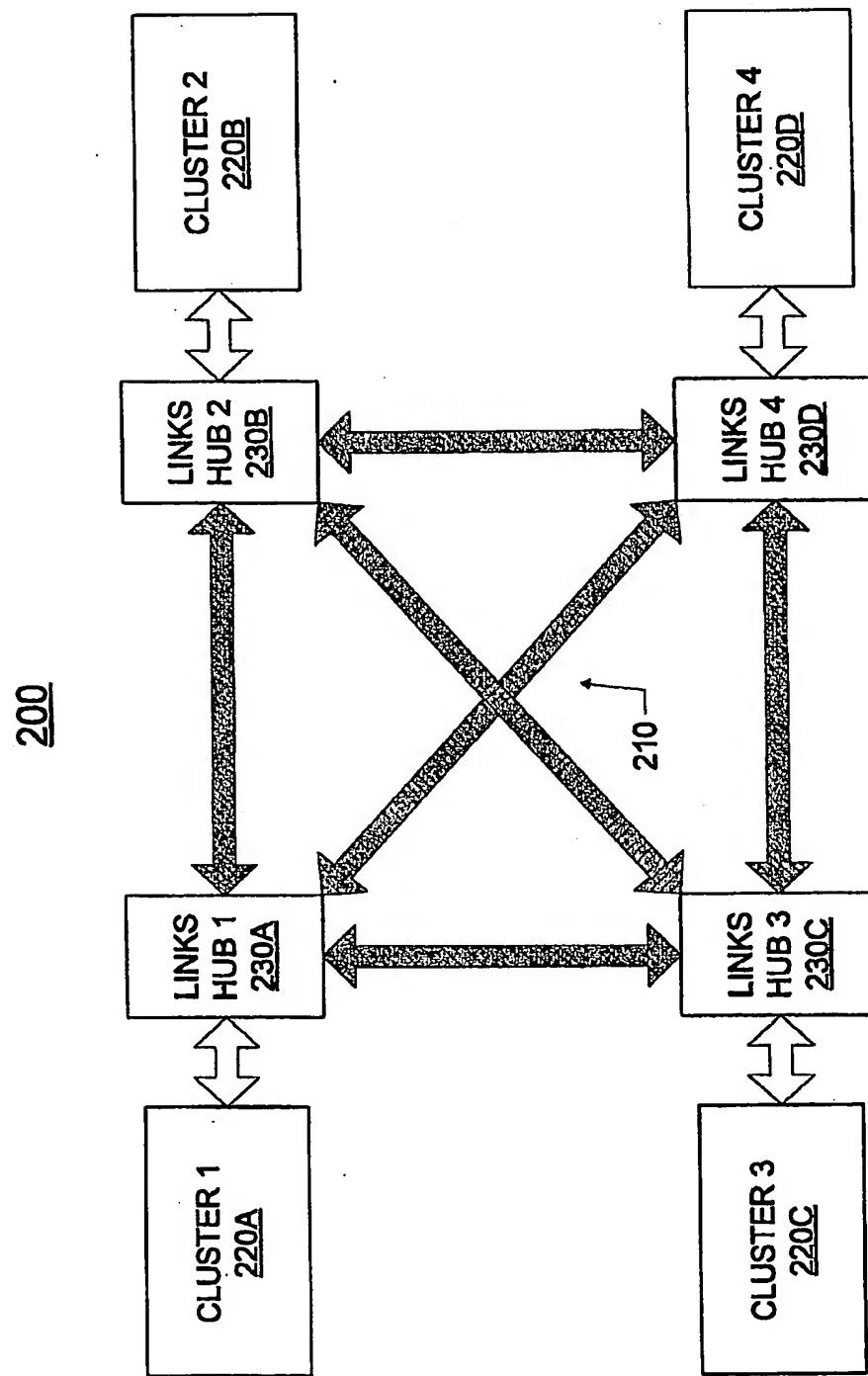


FIGURE 2

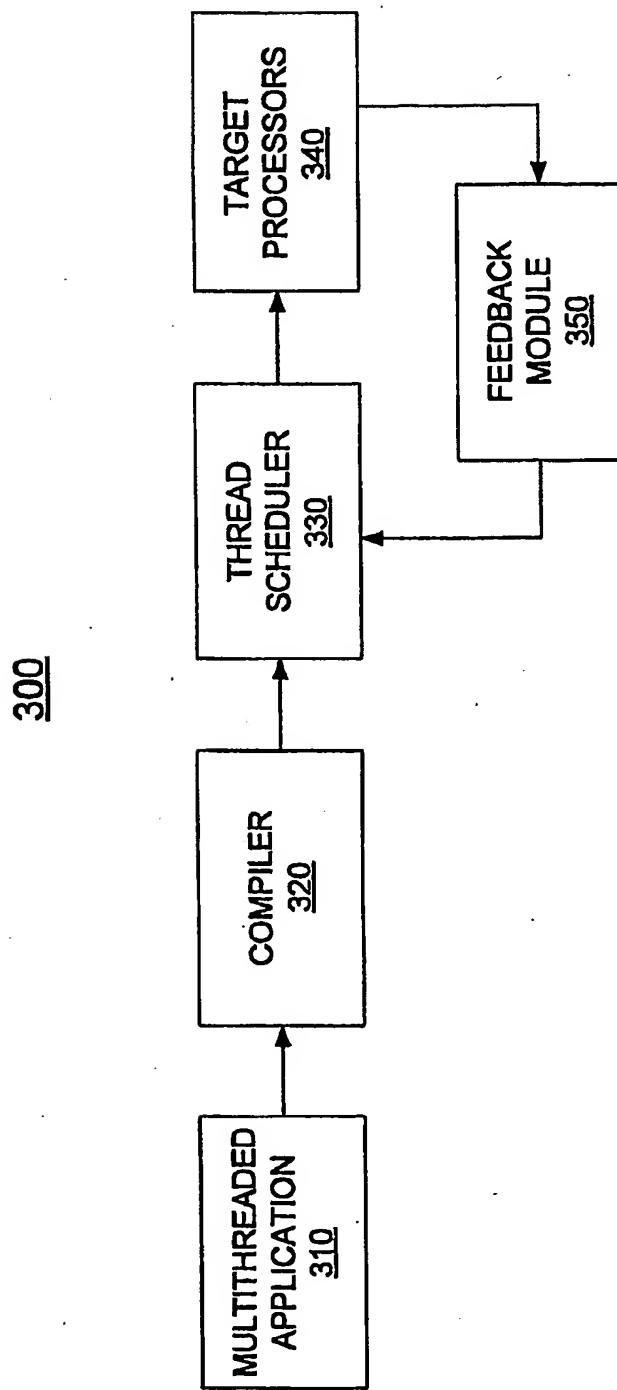


FIGURE 3

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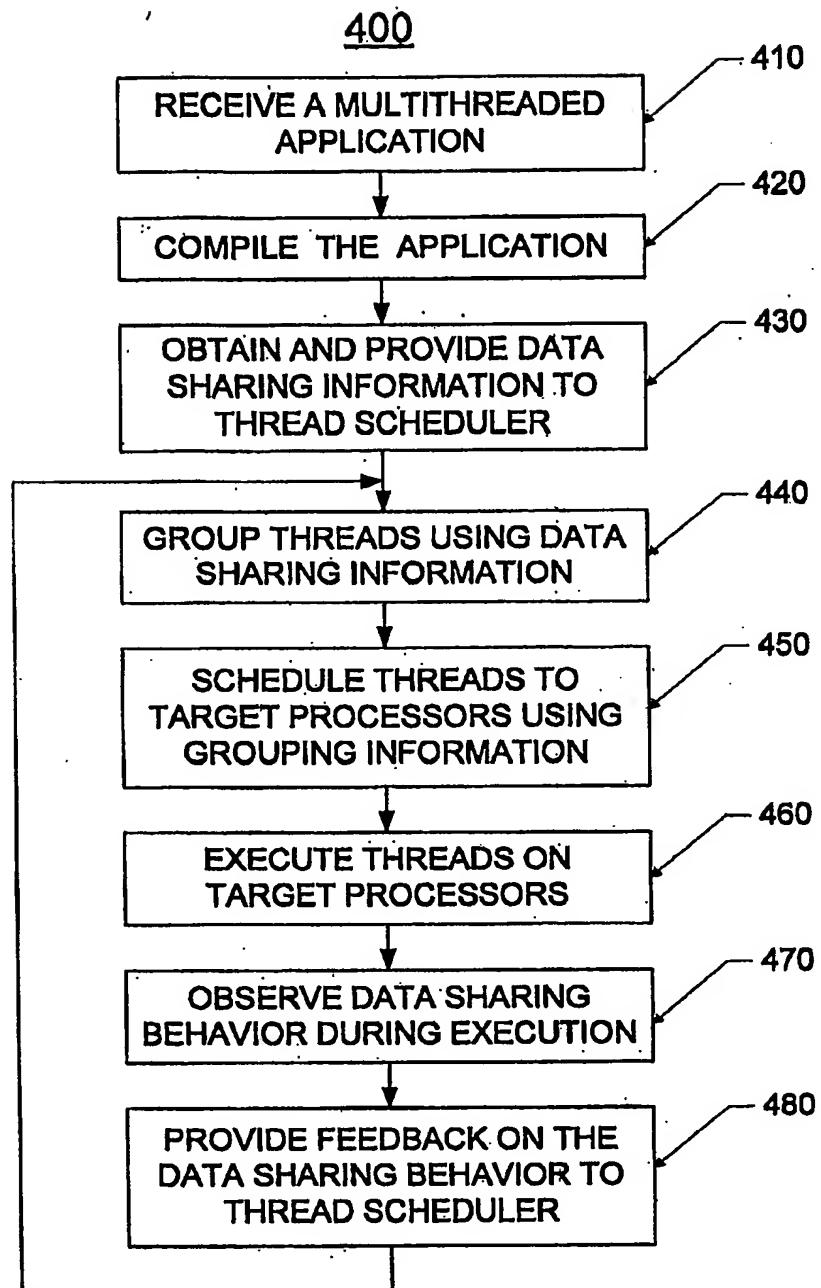


FIGURE 4

600

```

605 void test(List p)
610 {
615 #pragma intel omp parallel taskq shared(p) num_threads(4)
620 {
625 while (p != NULL)
630 {
635 #pragma intel omp task captureprivate(p)
640 {
645 do_work(p);
650 }
655 p = p->next;
660 }
665 }
670 }

```

500

```

510 void test(List p)
520 {
530 while (p != NULL)
540 {
550 do_work(p);
560 p = p->next;
570 }
580 }

```

FIGURE 5

FIGURE 6

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700

```

705  kmpc_serialized_parallel;
710  kmpc_fork_call ; create a team of threads
715  kmpc_taskq;
720  kmpc_end_taskq ; select one thread to be master thread
725  kmpc_end_serialized_parallel;

```

```

750  kmpc_task_buffer ; allocate memory for thunk_t
755  copy_captureprivate variable to thunk_t
760  kmpc_task ; enqueueing of a task
765  kmpc_taskq_task ; enqueueing the task_thunk
770  kmpc_end_taskq ; turn into worker thread

```

FIGURE 7

800

```

805  kmpc_serialized_parallel;
810  kmpc_fork_call ; create a team of threads
815  kmpc_team_scheduling ; schedule team of threads on nearby processors
820  kmpc_taskq;
825  kmpc_end_taskq ; select one thread to be master thread
830  kmpc_end_serialized_parallel;

```

```

850  kmpc_task_buffer ; allocate memory for thunk_t
855  copy_captureprivate variable to thunk_t
860  kmpc_task ; enqueueing of a task
865  kmpc_taskq_task ; enqueueing the task_thunk
870  kmpc_end_taskq ; turn into worker thread

```

FIGURE 8

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900

```
905 int NumThreads; // specify the number of threads
910 int NumThreadsPerGroup; //specify the number of threads per group
915 int GroupNum = NumThreads / NumThreadsPerGroup;
920 #pragma omp parallel for num_threads(GroupNum)
925 {
930     for (int gId = 0; gId < GroupNum; gId++)
935     {
940         #pragma intel omp parallel taskq num_threads(NumThreadsPerGroup) ordered
945             shared(frame);
950         {
955             #pragma intel omp ordered
960             frame = decoding_video();
965             #pragma intel omp task captureprivate(frame)
970             extract_feature(frame);
975         }
980     }
}
```

FIGURE 9

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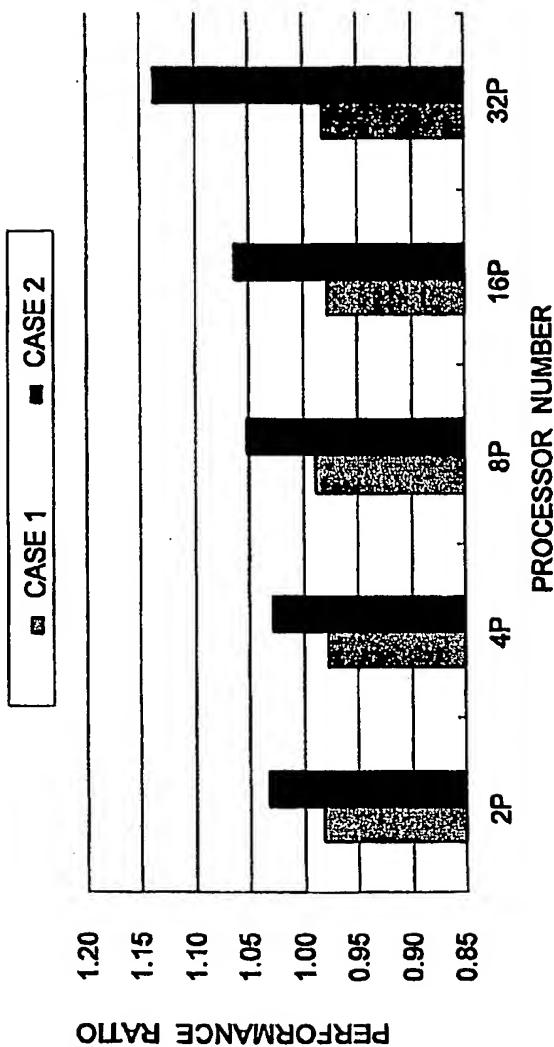


FIGURE 10